İzmir Kâtip Çelebi Üniversitesi Sağlık Bilimleri Fakültesi Dergisi 2025;10(1): 81-89
DOI: 10.61399/ikcusbfd.1433298

İKÇÜSBFD

RESEARCH / ARAŞTIRMA

Determining Nurses' Perceptions of Disaster Preparedness

Hemşirelerin Afete Hazırlık Algılarının Belirlenmesi

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Received/Geliş tarihi: 07.02.2024
Accepted/Kabul tarihi: 14.11.2024

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Abstract

Objective: This research was conducted to determine the disaster preparedness perceptions of nurses working at Basaksehir Cam and Sakura City Hospital.

Material and Methods: The sample of the descriptive study consisted of 302 nurses. Data were collected with a Personal Information Form and the Disaster Preparedness Perception Scale for Nurses. In the evaluation of the data, number, percentage, mean, Mann-Whitney U test, Kruskal-Wallis H test, and Spearman correlation analysis were used.

Results: The mean age of the nurses was determined to be 25.88±2.21 and 62.3% were female. 73.8% of the nurses defined themselves as partially prepared for disasters. The total mean score of the Disaster Preparedness Perception Scale for nurses was determined as 73.278±13.23. The mean scores of the sub-dimensions of the scale were; preparedness sub-dimension 25.70±4.16, intervention sub-dimension 30.20±7.39 and post-disaster sub-dimension 17.37±4.95. According to the socio-demographic characteristics of the nurses; the mean scores of the Disaster Preparedness Perception Scale and sub-dimension of the singles, those between the ages of 24-27, those working in surgical and emergency services, those participating in disaster drills and those receiving disaster training were found to be higher than the others ($p<0.05$).

Conclusion: In this study, it was determined that more than half of the nurses were partially prepared for disasters, and the Disaster Preparedness Perception Scale for Nurses total score and the preparedness, intervention and post-disaster sub-dimensions were above the average value. In our country, where disasters occur frequently, the pre-disaster preparations of nurses, who are at the forefront of intervention during and after disasters, are extremely important. In this context, it is recommended that intervention studies be carried out to increase the preparedness of nurses for disasters.

Keywords: Disaster, perception of preparedness, nurse.

Öz

Amaç: Bu araştırma, Başakşehir Çam ve Sakura Şehir Hastanesi'nde çalışan hemşirelerin afetlere hazırlık algılarını belirlemek amacıyla yapıldı.

Gereç ve Yöntem: Tanımlayıcı tipteki araştırmanın örneklemini 302 hemşire oluşturdu. Veriler Kişisel Bilgi Formu ve Hemşireler için Afete Hazırlık Algı Ölçeği ile toplandı. Verilerin değerlendirilmesinde sayı, yüzde, ortalama, Mann-Whitney U testi, Kruskal-Wallis H testi ve Spearman korelasyon analizi kullanıldı.

Bulgular: Hemşirelerin yaş ortalaması 25,88±2,21 ve %62,3'ünü kadınlar oluşturmaktadır. Hemşirelerin %73,8'i kendilerini afetlere kısmen hazırlıklı olarak tanımlamıştır. Hemşireler için Afete Hazırlık Algı Ölçeği toplam puan ortalaması 73,278±13,23 olarak belirlendi. Ölçek alt boyut puan ortalamaları; hazırlıklı olma alt boyutu 25,70±4,16, müdahale alt boyutu 30,20±7,39 ve afet sonrası alt boyutu 17,37±4,95'tir. Hemşirelerin sosyo demografik özelliklerine göre; bekarların, 24-27 yaş aralığında olanların, cerrahi ve acil serviste çalışanların, afet tatbikatına katılanların ve afet eğitimi alanların Afete Hazırlık Algı Ölçeği ve alt boyut puan ortalamaları diğerlerine göre daha yüksek ($p<0,05$) bulundu.

Sonuç: Bu çalışmada hemşirelerin yarısından fazlasının afetlere kısmen hazırlıklı olduğu, Hemşireler için Afete Hazırlık Algı Ölçeği toplam puanı ile hazırlıklı olma, müdahale ve afet sonrası alt boyutlarının ortalama değerin üzerinde olduğu belirlenmiştir. Afetlerin sık yaşandığı ülkemizde, afet anında ve sonrasında müdahalede ön safta yer alan hemşirelerin afet öncesi hazırlıkları son derece önemlidir. Bu bağlamda hemşirelerin afetlere hazıroluşluklarını artırmaya yönelik müdahale çalışmalarının yapılması önerilmektedir.

Anahtar Kelimeler: Afet, hazırlık algısı, hemşire.

1. Introduction

Disasters are natural, technological or human-induced devastations that cause great destruction in societies, disrupt life or bring it to a standstill, exceed a society's ability to recover on its own, and require outside help. In the last decade, world has seen a rise in natural disasters. Due to climate change, an increase of such events is predicted for the future (1-3). According to AFAD data, it was seen that many natural events occurred in our country in 2023, including 830 earthquakes with a magnitude of over 4.0, 1711 forest fires, 2028 floods, 564 landslides, and 93 avalanches/blitzes (4).

Nowadays, despite all technological and scientific advances, loss of life and property continues to be seen due to inadequate attitudes and behaviours towards disasters. The fact that people act thoughtlessly and do not improve themselves with regard to disasters is effective in this. Throughout human history, there have been many disasters and casualties (5). It has been determined that there were 313 disasters in Turkey between 1923-2016. Of the 313 disasters that occurred, 51.1% were natural and 48.9% were technological. 95.4% of natural disasters were sudden and 4.6% were slow-developing. When disasters were examined according to their subgroups, 35.8% were transportation accidents, 28.4% were geophysical and 13.1% were in the hydrological subgroup. The total loss of life in disasters was 91,797. More than 90% of the deaths occurred due to natural disasters (6). Since it is not possible to entirely prevent disasters, what countries, institutions and people should do is to be prepared for disasters. The more prepare for disasters, the more minimise their damage. The countries that suffered the most from disasters were those that did not prepare for them. Disaster preparedness involves the activities carried out in order to minimise loss of life, injury and material loss and to accelerate post-disaster recovery. The preparedness phase is the process in which pre-disaster exercises, planning and training are carried out, the public are informed about disasters, early warning mechanisms are set up, and emergency and medical aid materials are prepared (7,8,9). These preparations should be supported by a national disaster plan encompassing the whole of society. The countries that did not prepare for disasters were the ones that suffered the most.

In disasters, health services are among the services most sought by society. In disasters, the duty of health personnel and health institutions is to display the correct response and the correct behaviour. For this reason, it is essential that health personnel possess knowledge and competence in this regard (10). In the studies conducted about disasters, it has been seen that in the great majority of health institutions, there is no communication plan between the institutions that are to be imposed upon in time of disaster and that there is no in-house disaster evacuation plan (3,11). Even in institutions with a plan, due to the low level of awareness of health personnel about the plan, most of them do not know their place of duty, their responsibilities or how to act in the event of a disaster (12–14). It is important for nurses to be prepared for disasters and to exhibit effective attitudes and behaviors so that they can fulfill their responsibilities without interruption during disasters for the welfare and health of the society (15).

Health institutions must always be prepared for disasters. Nurses need to increase their professionalism in order to perform health care effectively before, during and after a disaster (14,16). The International Council of Nurses (ICN) states that nurses should have adequate knowledge and skills during and after a disaster, and a high capability to plan disaster care following a disaster (17). Disaster management, which was previously thought to be only the domain of public health nurses, nurses assigned to the army or emergency nurses, is nowadays regarded as a subject that needs to be known by nurses working in all fields (18). Programmes and studies aimed at disasters are carried out in the world and in our country. Unfortunately, as a result of studies conducted in the world and in our country, it has been seen that nurses' preparedness for disasters is inadequate (15,19,20). Throughout the conducted studies, it has been determined that nurses do not feel prepared to respond to disasters, and that the training they receive and the skills they possess are not at a sufficient level to do what they need to do in the event of a disaster (14,21–26). In a study conducted with academic nurses in Istanbul, 98% of the nurses stated that they were not personally prepared for an earthquake, while 96% stated that they were not professionally prepared, and 88.8% stated that they were not aware of the disaster plan in their institutions (12). In a study conducted for the development of the "Disaster Preparedness Perception Scale for Nurses", most of the nurses regarded themselves as "partially prepared" against disasters (20). In two studies conducted in Turkey, nurses' perceptions of disaster preparedness were found to be at a moderate level (27, 28). On February 6, 2023, Turkey was shaken by two major earthquakes on the same day, unprecedented in history. It was once again reminded that nurses have great responsibilities in disasters. During this process, nurses took active roles at every stage of the health system. For this reason, it is thought that determining the disaster preparedness status of nurses will be important in service planning and delivery. The aim of this study is to determine nurses' perceptions of disaster preparedness.

2. Materials and Methods

2.1. Study design

The study is of descriptive and correlational type.

2.2. Sample

The study was conducted at a City Hospital between April 2021 and July 2021. It is a 2,682-bed hospital located on the European side of Istanbul, providing health services to Istanbul and its surrounding areas. The population of the research consisted of 2.149 nurses working at a City Hospital. In the first phase of the study, it was aimed to reach the entire universe. However, since participation in the survey was voluntary, it was not possible to reach the entire population. Power analysis was performed to determine the sample size (95% confidence interval and 5.23 error rate) (20). The sample of the study consisted of 302 nurses selected with simple random sampling method. The entire sample was reached during the data collection phase.

2.3. Inclusion criteria

Nurses who worked as nurses at Basaksehir Cam and Sakura City Hospital and were willing to participate in the study were included.

2.4. Data Collection

Data were collected by the researcher through a face-to-face survey administered to nurses on duty. Since the researcher worked at this hospital, data collection was carried out by visiting the units where the nurses worked on the days when the researcher was on leave. Data were collected with a Personal Information Form and the Disaster Preparedness Perception Scale for Nurses (DPPSN).

Personal Information Form: This is a form consisting of 16 questions prepared in accordance with the aim of the research (14,22,29,30). Twelve of the questions on this form are multiple choice, six are yes/no, and three are open-ended. The questions include factors that can affect nurses' perceptions of preparedness (such as receiving disaster training and reading the disaster plan).

Disaster Preparedness Perception Scale for Nurses (DPPSN): This scale was developed by Fung et al. (14), while the Turkish validity and reliability study was carried out by Özcan (20). The scale has 20 items, and is a five-point Likert-type scale (1-Strongly disagree, 2-Disagree, 3-Partially agree, 4-Agree, 5-Strongly agree). The DPPSN scale consists of three sub-dimensions, namely the disaster preparedness sub-dimension (six items), the disaster response sub-dimension (nine items), and the post-disaster sub-dimension (five items). There are no reverse-scored items in the scale. The minimum score that can be obtained from the scale is 20 and the maximum score is 100. As the scores obtained from the scale increase, the perception of disaster preparedness also increases. For the overall reliability of the scale, the Cronbach alpha value was found to be 0.90 (20). In this study, the Cronbach alpha values were α= 0.91 for the overall DPPSN, 0.89 for the disaster preparedness sub-dimension, 0.89 for the disaster response sub-dimension, and 0.90 for the post-disaster sub-dimension.

2.5. Statistical analyses

The collected data were analysed using SPSS version 21. Normal distribution was evaluated with the Kolmogorov-Smirnov test. Descriptive characteristics of the nurses were presented as numbers, percentages and means. Since the variables did not show normal distribution, the non-parametric Spearman correlation, Mann-Whitney U and Kruskal-Wallis H tests were used. A p value lower than 0.05 was considered statistically significant

2.6. Ethical Aspect of the Research

The required permission was obtained prior to the study in order to meet the ethical requirements of clinical research. The study was approved and implemented in collaboration with the Turkish Ministry of Health. Ethical approval was obtained from İstanbul Başakşehir Çam and Sakura Hospital Clinical Research Ethics Committee (Reference No: 2021/113, Date: 16.06.2021). Written approval was obtained from the hospital administration where the study was conducted. Detailed information about the aim of the study and what participation would involve was provided on the first page of the questionnaire. Participants were informed that they could withdraw at any time, without providing a reason, and that all information and opinions given would be confidential and anonymous.

3. Results

Findings regarding the distribution of disaster-related characteristics of the nurses participating in this study are given in Table 1. It was determined that 16.0% of the nurses defined the disaster as an earthquake, 56.9% received disaster training, 64.7% received theoretical training, 45.1% had experienced a disaster before, 40.8% were not sure whether the hospital had a disaster plan, 84.2% said that 100% of the patients did not read the hospital's disaster plan, 22.5% said that nurses have a care role during disasters, and 19.0% needed triage training against disasters (Table 1).

Table 1. Distribution of Nurses' Sociodemographic and Individual Characteristics

Characteristics		
	Mean±SD	
Average Age	25.88±2.21	
Length of Service	2.51±2.00	
	n	**%**
Gender (n=302)		
Female	188	62.3
Female	114	37.7
Definition of Disaster*		
Earthquake	296	16.0
Landslide, rock fall	273	14.8
Avalanche	275	14.9
Fire	244	13.3
Floods and flooding	263	14.2
Terrorist acts with biological, chemical or explosive agents	165	8.9
Accidents that may occur in electric or nuclear power plants	168	9.1
Diseases with high mortality such as bird flu and coronavirus	163	8.8
Receiving Disaster Training (n=295)		
Yes	168	56.9
No	127	43.1
Type of Disaster Training (n=170)		
Theoretical	110	64.7
Theoretical-practical	60	35.3
Disaster Experience (n=293)		
Yes	132	45.1
No	161	54.9
Existence of a Disaster Plan in the Hospital (n=296)		
Yes	115	38.9
No	60	20.3
Not sure	121	40.8
Reading the Disaster Plan (n=253)		
Yes	40	15.8
No	213	84.2
Roles of Nurses in Time of Disaster*		
Caregiver	275	22.3
Coordinator	218	17.7
Educator	198	16.2
Adviser	189	15.3
Manager	205	16.6
Defender	147	11.9
Priority in Time of Disaster (n=288)		
Getting away as soon as possible	18	6.3
Evacuating as many patients as possible	78	27.1
Implementing the directives of the authority of the department I work in	32	11.1
Following the hospital disaster plan protocol prepared for disaster management	160	55.5

Table 1. Distribution of Nurses' Sociodemographic and Individual Characteristics (Continued)

Characteristics	n	%
Individual Preparedness for Disasters (n=282)		
Unprepared	63	22.3
Partially prepared	208	73.8
Completely prepared	11	3.9
Nation's Preparedness for Disasters (n=282)		
Unprepared	176	62.4
Partially prepared	105	37.2
Completely prepared	1	0.4
Training Needed in the Face of Disasters*		
First aid	249	19.0
Field triage	219	17.8
Basic life support	233	18.9
Cardiovascular life support	198	16.3
Infection control	129	10.5
Response to multiple trauma	210	17.5

*Since there are multiple responses, the number (n) exceeds the sample size.

The nurses' mean score for the DPPSN disaster preparedness sub-dimension was 25.70±4.16, their mean score for the DPPSN disaster response sub-dimension was 30.20±7.39, their mean score for the DPPSN post-disaster sub-dimension was 17.37±4.95, and their mean DPPSN total score was 73.278±13.235 (Table 2).

Table 2. Total and Sub-Dimension Score Averages of Nurses' Disaster Preparedness Perception Scale

	Mean±SD
DPPSN- Preparedness sub-dimension score	25.70±4.16
DPPSN- Response sub-dimension score	30.20±7.39
DPPSN- Post-disaster sub-dimension score	17.37±4.95
DPPSN- Total score	**73.27±13.23**

While there was no significant relationship between the variables of age, marital status and length of service (years) of the nurses participating in the study and the disaster preparedness sub-dimension, a significant relationship was found in the other sub-dimensions and the total scale ($p < 0.05$). A statistically significant difference was found between the department in which the nurses worked and the disaster preparedness sub-dimension, the disaster response sub-dimension, the post-disaster sub-dimension, and the total mean score ($p<0.05$) (Table 3).

A statistically significant relationship was found between receiving disaster training and individual preparedness for disaster and the disaster response sub-dimension, post-disaster sub-dimension and total scale score ($p<0.05$). A significant difference was found between the variable of nurses' participation in disaster drills and the disaster preparedness sub-dimension, the post-disaster sub-dimension, and the total scale score ($p<0.05$). According to the nurses' responses to the question asking them what their priority was in the event of a disaster, a significant relationship was not found in the disaster preparedness sub-dimension, while a significant relationship was found in the other sub-dimensions and in the total scale ($p<0.05$) (Table 4).

4. Discussion

This study was carried out to determine the disaster preparedness perceptions of nurses working in a city hospital. In our study, it was determined that nurses' disaster preparedness perceptions were high. Despite the prevalence and frequency of disasters in Turkey, reasons such as lack of education, unconsciousness, ignorance and inattention to security create a situation that makes it difficult for the country and society to combat disasters (31,32). When disasters that occurred between 1980 and 2017 are examined, in terms of loss of life, an average of

Table 3. Comparison of some Sociodemographic Characteristics of Nurses with their DPPSN Total and Sub-dimension Scores

Characteristics	Prepared-ness sub-dimension score	Response sub-dimension score	Post-disaster sub-dimension score	DPPSN Total Score
Marital Status				
Married	155.28	126.14	124.96	127.02
Single	149.05	157.92	158.27	157.65
z	-.533	-2.687	-2.821	-2.587
p	0.594	**0.007**	**0.005***	**0.010***
Receiving Disaster Training				
Training received	146.97	158.03	157.92	157.84
Training not received	149.36	134.74	134.88	134.99
z	-.242	-2.325	-2.303	-2.279
p	0.809	**0.020***	**0.021***	**0.023***
Participation in Disaster Drills				
Participated	158.85	155.11	160.61	162.06
Did not participate	136.85	139.51	135.60	134.57
z	-2.226	-1.560	-2.506	-2.748
p	**0.026***	0.119	**0.012***	**0.006***

***p<0.05**
z= Mann Whitney U Testi

Table 4. Comparison of Some Characteristics of Nurses and their DPPSN Total and Sub-Dimension Scores

	n	Preparedness sub-dimension score	Response sub-dimension score	Post-disaster sub-dimension score	DPPSN Total score
Department Worked in					
Internal department	45	162.43	123.74	122.36	126.26
Surgical department	45	169.34	98.96	107.77	105.89
Emergency department	155	156.48	177.35	174.95	178.37
Intensive care	35	106.87	165.26	156.77	147.39
Administrative department	2	232.25	249.25	254.75	266.50
Other departments	19	108.53	87.24	104.34	87.68
kwx²		19,133	48.511	36.383	44.726
p		**0.002**	**0.000**	**0.000**	**0.000**
Age Groups					
20-23 years	17	129.32	112.74	107.62	108.76
24-27 years	225	150.93	157.52	157.62	158.27
28 years and over	56	149.89	128.42	129.01	126.62
kwx²		1.020	8.417	9.309	10.089
p		0.600	**0.015**	**0.010**	**0.006**
Length of Service (Years)					
0-3 years	238	138.84	146.52	146.07	146.16
4-7 years	32	140.33	100.33	87.58	94.02
8 years and over	11	189.73	139.95	186.82	166.14
kwx²		4.243	9.137	18.362	12.719
p		**0.000**	0.120	**0.010**	**0.002**
Priority in Time of Disaster					
Getting away as soon as possible	18	135.69	166.64	143.92	154.08
Evacuating as many patients as possible	78	130.08	140.93	127.47	132.04
Implementing the directives of the authority of the department I work in	32	149.89	91.28	90.55	95.19
Following the hospital disaster plan protocol prepared for disaster management	160	151.44	154.39	163.66	159.36
kwx²		3.882	16.780	25.310	18.308
p		0.274	**0.001**	**0.000**	**0.000**
Individual Preparedness for Disasters					
Unprepared	63	151.40	103.21	95.83	102.33
Partially prepared	208	141.15	150.91	153.12	152.21
Completely prepared	11	91.36	182.86	183.32	163.32
kwx²		5.229	19.541	27.048	18.923
p		0.073	**0.000**	**0.000**	**0.000**

p<0.05

kwx²= Kruskal Wallis H test

6-25 people per million people in Turkey lost their lives due to natural disasters (33). No matter how big an emerging hazard is, the lower the vulnerability, that is, the higher a society's perception for detecting the hazard, minimising the damage, and quickly returning life to normal, the smaller the dimension of the disaster will be. For this reason, preparedness is expressed as preventing the effects of the hazards and risks that may occur as much as possible prior to a disaster, minimising the effects if this is not possible, and performing all the activities that need to be done before the disaster occurs in order to make a quick and effective response when the disaster occurs (34).

In disasters, health services are among the services most sought by society. Nurses are important for their knowledge about disasters, their preparedness for disasters, their attitudes and behaviours in disasters, and ensuring the welfare and health of society. For this reason, for nurses to fulfil their responsibilities uninterruptedly, it is important for them to be prepared for disasters and to display effective attitudes and behaviours during disasters (15). Individuals with disaster training and drill experience can work more actively and efficiently during a disaster. It was determined that about half of the nurses participating in the study had experienced disasters before, but that a

very low percentage of them had been obliged to give care to disaster victims. In different studies carried out in our country, it was reported that nurses had disaster experience ranging between 18.8% and 50.2%, while the percentage of those giving care at the time of disaster ranged between 9% and 45.9% (20,35–38). Khalaileh et al.'s study determined that 11% of nurses had experience with disasters (22). In a study conducted in our country, it was determined that 29.9% of nurses worked in disaster and/or extraordinary situations (27). The differences occurring between the rate of those encountering disasters and those providing care to victims may be due to the disasters that took place in the years when the studies were conducted. In most of the previous studies, it was seen that nurses did not participate in disasters and that their disaster experience was low. It can be thought that the reason why the proportion of nurses giving care to disaster victims was lower in this study than in other studies is due to the fact that the majority of nurses were new to the profession.

In research conducted in Turkey, the number of those who had received training related to disasters was one tenth of the number of those who had not, the most common type of training received for disasters was earthquake training, and the most desired type of training was determined as first aid training (39). In this study, it was determined that approximately half of the nurses received disaster training, more than half of the training they received was theoretical, and one-third was theoretical + practical training. In four different studies made in Turkey, the percentage of nurses receiving disaster training varied between 41.5% and 62.4% (20,37,38,40). It was stated that the nurses who received training were given mainly theoretical training (20,37). When we look at the studies conducted on nurses with similar qualifications, we can see that the majority of nurses received disaster training and that the training they received was theoretical. However, it can be said that although knowledge was acquired from the training received, in order to acquire practical skills, this training should be carried out practically as well as theoretically.

It is important for healthcare professionals working in hospitals to intervene, provide care and look after the injured during and after a disaster. For this reason, it is vital to make plans and inform hospital staff before, during and after a disaster occurs. In this study, it was determined that only 38.9% of the nurses participating in the research were aware of the disaster plan in the hospital, and only 15.8% of those who were aware of the disaster plan had read the plan. In different studies, the rate of nurses being aware of the hospital disaster plan varies between 42.3%, 46.4%, 61.4% and 68.4% (20,27,36–38). Even if nurses know the hospital disaster plan, it is seen that their rate of reading it is lower(36,38). The fact that the disaster plan in hospitals is not known and read by nurses will negatively affect their attitudes and behaviours in time of disaster. In order to prevent this, it can be suggested that training aimed at the disaster plan in the hospital should be given at regular intervals in hospitals. The International Council of Nurses (ICN) emphasises that all nurses should possess the required knowledge and skills for disaster preparedness and response, and the competence to plan and conduct disaster care in the best possible way (17). According to this view, regardless of their area of expertise, nurses should know about disaster management and play a role in all phases of disasters. In disasters, nurses will have to provide more care as a result of mass injuries. In this study, regarding the perceived roles of nurses during disasters, the roles of caregiver, coordinator and manager occupied the first three places, respectively. In different studies, it can be seen that the role of caregiver occupies the first place among the roles of nurses at the time of disaster (20,36). In this respect, this study is similar to other studies. It can be said that nurses are in an indispensable position in providing care to victims, and that they are the most vital profession in the response to disasters.

In this study, it was determined that the training needs by which nurses wished to improve themselves in time of disaster were first aid, basic life support, field triage, response to multiple traumas, cardiovascular life support and infection control, respectively. In Özcan's study, the training needs of nurses were, respectively, response to multiple traumas, field triage, first aid, basic life support, and cardiovascular life support (20). In the study by Taşkıran (2015), disaster management, communication in disaster and crisis situations, post-traumatic psychological care, field triage, advanced life support for children, and advanced trauma life support were listed (35). Fung et al. determined that in order of importance, nurses required training in basic life support, first and emergency aid, advanced cardiovascular life support, infection control, field triage, advanced trauma life support and training covering all content (14). When looking at the studies, it is seen that the majority of nurses need training on different subjects in order to feel more prepared for disasters. This training can ensure that more conscious and better-informed nurses take part in the response to disaster at every stage. For this reason, it is important to provide the information needs of nurses aimed at changing times and times of crisis through in-service training.

A weak negative relationship was found between the nurses' nurses' age variable and their perception of disaster preparedness. According to the variable of length of service, a weak negative correlation was found in the post-disaster sub-dimension only. In Özcan's study, no significant difference was found according to the age variable of the nurses (20). In the studies conducted by Tercan and Yürekli, it was concluded that age and length of service did not affect nurses' perception of disaster preparedness (36,38). In this study and the previous studies, no significant difference was found between nurses' perception of disaster preparedness according to the variables of age, length of service and duration of disaster training. If we look at the perception levels of the nurses included in the study according to their gender, there was no significant difference in the preparedness phase, response phase and post-disaster phase. While no significant difference was found in the disaster preparedness sub-dimension according to the marital status variable of the nurses, a significant difference was found in the other sub-dimensions and the total scale. This result is similar to the findings of Tercan and Yürekli in the sub-dimension of disaster preparedness (36,38). The results of this study and similar results in previous studies show that there is no gender difference in performing this profession. It can be concluded that the perception levels of both genders against disasters are the same.

It can be seen that the perceptions of nurses were high in the variable of nurses' receipt of disaster training. When we

compared the nurses' perceptions of preparedness against disasters according to the variable of participating in disaster drills, it was found that nurses who had participated in a disaster drill had a higher perception in the total scale than those who had not. In the study conducted by Özcan in 2013, it was determined that nurses' perceptions of preparedness were high both in the response phase and in the post-disaster phase (20). A similarity can be seen between that study and this research. It can be conclude that the disaster drills that nurses take part in, both in training and in practice, increase their perceptions of preparedness for disasters. It can be said that since the perception and awareness of nurses taking part in disaster training and drills are higher, they can manage the moment of disaster more effectively. Moreover, since the drills will ensure practicality, in terms of implementation, nurses who have participated in drills will be more conscious and self-confident in their behaviour at the time of disaster.

A significant relationship was found in the nurses' perceptions of disaster preparedness according to the variable of the department they worked in. Considering the mean rank values, the mean rank values of nurses working in the surgical department were the highest in the preparedness sub-dimension, while the mean rank values of nurses working in the emergency department were found to be the highest in the response sub-dimension. Nurses working in the emergency department had the highest mean rank values in the post-disaster sub-dimension, while lastly, nurses working in the emergency department again had the highest mean rank values based on the total scale. This result can be interpreted as the fact that in crisis situations such as disasters, emergency nurses make a greater contribution in the unit where they work, and that these nurses are more responsive and solution-oriented in emergencies.

According to the age variable of our participants, a significant difference was determined in the perceptions of disaster preparedness in the sub-dimensions except for the disaster preparedness sub-dimension, and in the total scale scores. When we examine the mean rank values in the response sub-dimension, the post-disaster sub-dimension and the total scale, we can say that the disaster perceptions of participants in the 24-27 age range were higher. We can see that the level of perception decreases at the age of twenty-eight and above. As age progresses, the level of disaster perception decreases, and we can say that there is a negative correlation. Furthermore, we can say that since the level of professional burnout in nurses aged between 24-27 is lower, the level of disaster consciousness and disaster awareness is higher.

It was found that in the sub-dimensions except for the disaster preparedness sub-dimension, and in the total scale, the mean rank values of nurses whose length of service was between 0-3 years were higher than for the other year variables. Here, contrary to what is expected, it is surprising that the disaster perception levels of nurses who were still in the first years of their profession were higher. It can be thought that the disasters that we have experienced in recent times, and as a result of these disasters, the informative and consciousness-raising activities and in-service training provided regarding disasters on almost every platform in education, health, higher education and all public institutions and organisations, have had an effect on this result. Moreover, it can be concluded that nurses who are younger and in the first years of their profession participate more in in-service training and thus have higher perception levels.

Among the nurses participating in the study, a significant difference was found between their priority in time of disaster and their disaster preparedness perception levels. In terms of priority in disasters, the mean rank values of those who gave the answer "following the disaster plan protocol prepared for disaster management" were the highest in the response sub-dimension and the post-disaster sub-dimension, while their mean rank value was also found to be highest in the total scale score. Therefore, it was widely accepted by the nurses that the priority in time of disaster is the disaster protocol, because the hospital disaster and emergency plan provides a framework for how to be organised in time of disaster, how to deal with the disaster, and how to escape with the least possible damage before, during and after the disaster, and it is of vital importance in this context.

Finally, a significant relationship was found between the answers given to the questionnaire item which asked the nurses to determine whether they felt prepared for disaster individually, and their perception of disaster preparedness. When the relevant table is discussed in detail, a significant relationship specific to this variable was found in the sub-dimensions except for the employees' disaster preparedness phase, and the total scale. Considering the mean rank values, it can be said that those who felt completely prepared and partially prepared had higher disaster perception levels in the response sub-dimension, the post-disaster sub-dimension and the overall scale.

4.1. Limitations

The fact that the research was conducted with nurses working in a designated hospital within a certain date range and that the data was based on participant reports can be considered as the limitations of our study.

5. Conclusion

In this study, it was determined that more than half of the nurses were partially prepared for disasters, and the DPPSN scale total score and the preparedness, intervention and post-disaster sub-dimensions were above the average value. The perception of disaster preparedness of nurses who received disaster training was found to be higher than that of nurses who did not receive disaster training. Since the participants in this study were young and new nurses, nearly half of them had no disaster experience or training. The type of training that nurses needed the most was first aid. In our country, where frequent disasters occur, disaster training should be reorganised, and nurses' perceptions of preparedness should be kept high with adequate and complete training. It is recommended that disaster-related training be continually repeated and reinforced through training and drills.

6. Contribution to the Field

This study was conducted to contribute to the current literature on nurses' attitudes, behaviors and perceptions of preparedness towards disasters. Our country is in a region at risk from natural disasters. It is therefore important to determine the attitudes, behaviors and preparedness

perceptions of nurses, who are at the forefront during disasters, towards disasters. Determining nurses' attitudes, behaviors and perceptions of preparedness towards disasters can provide guidance to those in managerial positions.

Acknowledgements

We thank all the nurses who participated in this study.

Conflict of Interest

There is no conflict of interest regarding any person and/or institution.

Authorship Contribution

Concept: BNK, HSK, BA; **Design:** BNK, HSK, BA; **Supervision:** HSK, BA; **Funding:** None; **Materials:** None; **Data Collection/Processing:** BNK; **Analysis/Interpretation:** BNK, HSK, AK; **Literature Review:** BNK, HSK; **Manuscript Writing:** BNK, HSK, BA; **Critical Review:** HSK, BA.

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